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perhaps 2,000 feet of the apex. Toward the base it has been denuded of the original vegetation and converted into farms. Clouds and mists keep the upper portion bathed in moisture and the vegetation is very luxuriant except near the top. The entire area of its flanks furnishes excellent opportunity for the botanical collector. The volcano Atitlán is in the Department of Solalá immediately south of Lake Atitlán, and in general appearance is much like Agua. It is not however clothed with vegetation to the extreme apex—the volcanic ash preventing plants from getting a foothold there. The forest covering which is very dense, beginning immediately below the line of loose material, has not been disturbed except very near the base. The volcano Santa Maria in the Department of Quezaltenango is likewise clothed with forest vegetation, which reaches the summit. The eruption that took place in 1902 completely destroyed the vegetation on the south and southwest side where a new crater of immense size was formed. Many parasitic fungi were obtained on these volcanoes, especially on the first named in the list, yet the collections must be materially augmented by future trips before a just estimate can be made as to abundance, distribution and character.

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OCCURRENCE OF LASIODIPLODIA ON THEOBROMA CACAO AND MANGIFERA INDICA.

VERA K. CHARLES.

In the spring of the present year a consignment of diseased *Theobroma* material, which included wood and fruit was sent

to the Department of Agriculture from Brazil for examination as to the cause of the disease. Unfortunately, no written description accompanied the specimens and as they were in alcohol there was no opportunity to trace the development of the disease to determine whether the disease on the pods was the same as that which produced the general abnormal branching of the twigs. *Colletotrichum* was definitely determined as present on the pods, but it was not in sufficient quantity to be the sole cause of the trouble. We inferred this only from the material which we had for examination, but of course it is possible that our limited amount of material was not typical of the disease in its natural place of occurrence. The beans were one mass of brown, many septate, knotted mycelia. As these beans were also in a preservative fluid no cultures could be started which would lead to the identification of this sterile mycelium. A second consignment of specimens of diseased *Theobroma cacao* consisting of pods and wood was received in August of this year from San Domingo. These pods showed the presence in great quantity of mycelium, similar to that just described, but in this case the fungus was fruiting and definitely identified as belonging to the genus *Lasioidiplodia*.

About three months ago two specimens of the fruit of *Mangifera indica* were sent to this Office by one of our plant introducers, who procured them from a local fruit stand, which had probably received them from Florida. Although badly rotted the fungus was isolated and proved to be *Lasioidiplodia*. Several transfers were made but all cultures, even the first, were remarkably pure.

The question whether this fungus is *Lasioidiplodia tubericola* E. & E. and not a new species, is yet to be determined. To all present appearances it is the same, but a series of inoculation experiments are in progress to determine if this may be a physiological species. Although the effect produced on these two hosts is not that of putrefaction, which is characteristic of this species, we are inclined to believe that the length of time which elapsed before the material received our attention and the unusual condition to which it was subjected during that time, may be responsible for the somewhat softened condition of the fruits.

That this fungus may be connected with the Witches' Broom disease or "putrefaction" disease, as called by cacao planters, we cannot say until we complete our cultural experiments, and have more material for our examination together with field observations.

Bureau of Plant Industry,
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